of its hive at the distance of a few feet. Now everyone knows that the sight of a Bee is much longer than that. The author concludes that each element corresponding with a facet must be regarded as a complete eye. But it is clear that in this case the principle of identical points does not exist for these eyes, and that we must suppose the animal to possess the power of perceiving impressions in the direction of the rays which strike each facet.—*Siebold und Kölliker's Zeitschrift*, 1859, p. 191; *Bibl. Univ.* June 20, 1860; *Bull. Sci.* p. 161.

Results of Soundings in the North Atlantic.

To the Editors of the Annals of Natural History.

Gentlemen,—During the recent survey of the proposed North Atlantic Telegraph route between Great Britain and America, conducted on board H.M.S. Bulldog, some important facts have revealed themselves, from which it would appear that all preconceived notions as to the bathymetrical limits whereby animal life is circumscribed in the sea are more or less erroneous. The mighty ocean contains its hidden animate as well as inanimate treasures; and it is probable that, under proper management, the former may speedily be brought to light, whatever may be the ultimate fate of the latter. In short, we are almost warranted, from the evidence already at our command, in inferring that, although hitherto undetected, a submarine fauna exists along the bed of the sea, and that means and opportunities are alone wanting to render it amenable to the scrutiny of the naturalist.

In sounding midway between Greenland and the north-west coast of Ireland, at 1260 fathoms—that is, at a mile and a half below the surface, in round numbers—several *Ophiocomæ* were brought up, clinging by their long spinous arms to the last fifty fathoms of line. They were alive, and continued to move their limbs about energetically for upwards of a quarter of an hour after leaving their native element. The species seems allied to *O. granulata*, Link, the specimens varying from 2 to 5 inches across the rays. Lest it be supposed that these *Ophiocomæ* were floating or drifting in the water at any point intermediate between the surface and bottom, it is only necessary to mention that the determination of depth having been effected by a separate operation and apparatus, the more tedious process of bringing up the sample of bottom is entered on; and, owing to the difficulty of finding out the exact moment at which ground is struck, a considerable quantity of line in excess of the already ascertained depth is usually paid out. This quantity therefore rests on the bottom for a short time until the sounding-machine is again hauled up. The *Ophiocomæ* were adherent to this last fifty fathoms only, and were not secured at all by the sounding-machine. It is quite clear therefore that they were met with on the surface-layer of the deposit. The distance from the nearest point of Greenland to the spot at which this sounding was made is 500 miles, and to the nearest point of Iceland (namely an isolated rock called the 'Blinde Skier,' about seventy miles from the mainland) 250 miles; so that,

admitting the possibility of the Starfishes having been drifted by currents, for argument's sake, the character of the fact would be in no way affected. The structure and habits of the Echinoderms generally are too well known, however, to render such a mode of accounting for their presence in the position referred to possible.

On careful dissection, I found no appreciable anatomical difference between these *Ophiocomæ* and the species frequenting shoal waters. The deposit on which they rested consists of *Globigerinæ*, so pure as to constitute 95 per cent. of the entire mass. Their occurrence where the *Globigerinæ* are to be met with both in greatest quantity and purity, together with the circumstance that in the stomach of the *Ophiocomæ* the *Globigerinæ* were detected in abundance as alimentary matter, corroborates the evidence I have obtained from other facts as to the normal habitat of the latter organisms being on the immediate surface-layer of the deeper oceanic deposits, and not in the substance of the superincumbent waters. At the same time it substantiates the truth of the Starfishes having been captured on their natural feeding-ground.

I also detected, in a sounding made at 1913 fathoms, a number of small tubes varying in length from $\frac{1}{16}$th to $\frac{1}{4}$th of an inch, and about a line in diameter, which, on being viewed under the microscope, turned out to be almost entirely built up of young *Globigerina*-shells cemented side by side, just as we find to be the case in the tubular cells of some of the Cephalobranchiate Annelids, where sandy or shell particles are employed in their formation. There can hardly be a doubt, therefore, that some minute creature, probably an Annelid, lives down at this enormous depth, and feeds on the soft parts of the Foraminifera, whilst he houses himself with their calcareous shells. As yet, I have been unable to determine the nature of these creatures, but hope to be enabled to succeed on a more lengthened survey of the material in which they occur.

Lastly, I would mention having met with the minute bodies termed "Coccoliths" by Professor Huxley. They occur in vast numbers, associated with larger cell-like bodies on the surface of which Coccoliths are arranged at regular intervals, so as to lead to the inference that the latter are in reality given off from the former in some way. The larger cell-bodies and the Coccoliths on them are imbedded in a gelatinous envelope. The presence of these organisms in largest quantity in those deposits in which the *Globigerinæ* occur alive in the greatest profusion and utmost state of purity, would also seem indicative of their being a larval condition of the latter.

I remain, Gentlemen, very faithfully yours,

G. C. Wallich.

Dr. Hilgard's "*Organotaxis*."

The *à-priori* or transcendental method in anatomy has evidently strong charms for some of our transatlantic brethren. In the 'Transactions' of the Academy of Science of St. Louis for 1859, vol. i. no. 3. p. 416, there is a paper by one of the curators, Dr. Theodore C. Hilgard, M.D., "on Organotaxis," in which the dreamy and imaginative Oken is out-Okened. One good effect of this curious